

# Read This First!

# Digital Performer™ 2.4 Installation Guide

## ABOUT THIS GUIDE

This guide provides important information about new features in Digital Performer 2.4 not found in the other manuals. It also provides an up-to-date installation guide.

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## IMPORTANT! REGISTER YOUR SOFTWARE

If you just purchased Digital Performer, take a moment now to fill in and mail the registration card found at the beginning of the *Digital Performer Guide to Digital Audio*, which accompanies this booklet. Leave the rest of the cardboard page in the manual for your future reference. Registering entitles you to:

- A free backup authorization disk (if applicable)
- Free, unlimited technical support
- Free newsletters, software updates, and announcements about major software upgrades and new products

Since Mark of the Unicorn can only provide customer service and technical support to registered users, please be sure to send the card in immediately after purchase.

## TECHNICAL SUPPORT

If you have questions, please review this booklet carefully first. You can reach MOTU tech support as follows:

- 24-hour on-line tech support database with search engine: <http://www.motu.com>
- Tech support email: [techsupport@motu.com](mailto:techsupport@motu.com)
- Tech support fax: 617.354.3068
- Tech support phone (9am - 6pm EST): 617.576.3066
- Downloads: <http://www.motu.com>

## SYSTEM REQUIREMENTS

Digital Performer 2.4 requires a 68040-based Macintosh or faster with 24Mb of RAM or more and System 7.5.5 or higher. A 17-inch monitor (or larger) is highly recommended. However, this configuration will not be able to play and record audio under Sound Manager (see below).

### Requirements for Sound Manager audio

If you would like to play and record audio tracks in Digital Performer using Sound Manager and your Macintosh built-in sound capabilities, you need a Power Macintosh with at least 32Mb of RAM. 40Mb of RAM is recommended.

The following standard System Extensions are also required for native audio recording and playback:

- Sound Manager 3.2.1 (not required on G3 Power Macintosh)
- SOMobjects
- Shared Library Manager
- Shared Library Manager PPC

Sound Manager 3.2.1 and SOMobjects are included with Digital Performer.

### Requirements for Digidesign systems

If you would like to use Digital Performer with a Digidesign hard disk recording system such as Pro Tools or Audiomedia, Digital Performer will run on any Macintosh (68K or PowerPC) that is compatible with your Digidesign audio hardware. Please contact Digidesign (or visit their web site) for information about the compatibility of their hardware with specific Macintosh models.

### System software requirements

Digital Performer requires at least System 7.5.5. System 7.6.1 or later is recommended.

## RAM requirements

Digital Performer requires at least 24 megabytes (Mb) of RAM, but this configuration may require you to lower Digital Performer's default memory partition or strip your system of extensions, control panels and fonts. More RAM is recommended. Sound Manager audio requires at least 32Mb of RAM. 40Mb is recommended.

### Digidesign audio hardware

Digital Performer 2.4 ships with DAE version 3.2.3, which supports the following Digidesign hard disk recording systems:

- Audiomedia II & III
- Pro Tools Project (formerly called *Session 8*)
- Pro Tools III
- Pro Tools|24

Some of these systems may not be supported in future versions of DAE. Please check with Digidesign regarding compatibility with versions of DAE later than 3.2.3. Also check with Digidesign regarding hard drive compatibility.

Digital Performer 2.4 includes DAE 2.96 (as a "Custom Install" option), which is required for the following Digidesign systems:

- Sound Tools II
- Pro Tools (4-16 channels)

The installation instructions later in this guide explain how to install DAE 2.96 for these systems.

### Other third-party audio hardware

Digital Performer 2.4 supports several third-party audio cards while running under the MOTU Audio System. The MOTU Audio System supports the following PCI audio cards:

- KORG 1212 I/O card
- Audiomedia III

If you have one of these cards, perform an “Easy Install” of Digital Performer 2.4 as described later in this guide.

### Install and test your Digidesign hardware first

If you have a Digidesign system, we recommend that you install and test your Digidesign hardware before installing Digital Performer. If possible, try playing audio with Pro Tools software to verify that the hardware is properly installed and functioning normally. If you experience problems, this will help focus your troubleshooting and eliminate Digital Performer as a possible cause. Once you’ve got the Digidesign hardware working, you will most likely not have problems with Digital Performer.

### INSTALLING DIGITAL PERFORMER

Before installing Digital Performer, we recommend that you review the hardware requirements listed above before proceeding.

#### Attention Digidesign hardware owners

If you have one of the following Digidesign hard disk recording systems, then you must use the Custom Install option to install Digital Performer with DAE version 2.96:

- Sound Tools II
- Pro Tools I or II (4-16 channels)

DAE 2.96 is an earlier version of the Digidesign audio engine that is still compatible with these systems. (The Digital Performer Easy Install option installs DAE 3.2.3, a current version that is no longer compatible with these older systems.)

### Disabling extensions

Before running the Digital Performer installer, disable all third-party extension and control panels, except for any extensions required by your CD-ROM drive. We particularly recommend temporarily disabling virus protection utilities, which may cause problems with the Digital Performer installer.

### Attention PowerBook users

If you have a PowerBook with hot-swappable floppy and CD-ROM drives, you will get the following alert during the Digital Performer installation at the point where the installer would normally ask you to insert the authorization floppy disk:

 “Error while validating the authorization count. This Macintosh computer is incapable of key diskette based authorization. Please contact customer service for authorization alternatives. Result code: 34.”

This alert is the result of there being no floppy drive available at the time you are running the installer from the CD-ROM drive. Don’t worry. Continue through the alert, and your installation will be completed. The first time you run Digital Performer, insert the authorization disk when you are asked to do so. Then, Digital Performer will be completely installed and properly authorized.

## Running the Digital Performer installer

To run the Digital Performer installer:

- 1 Insert the Digital Performer installer CD-ROM.
- 2 Double-click the "Install Digital Performer 2.4" icon. If you wish to install Digital Performer with a Japanese version of the Help and "Read Me" files, double-click the "Install Digital Performer 2.4-J" icon.
- 3 Follow the directions the installer gives you.
- 4 If the installer asks you to authorize your hard drive, insert the Digital Performer authorization disk (the disk with the colored label). If the authorization disk is not available for some reason, click Cancel. The installation will be completed without the authorization disk, which will be requested the first time you open Digital Performer instead.

## NOTES ABOUT INSTALLATION

The following sections discuss a few things that might be useful for you to know about Digital Performer installation.

### What gets installed and where

The Digital Performer installer places many items on your hard drive, including System Folder extensions, demo files, FreeMIDI utilities and so on. If you would like a summary of what gets installed and where it has been placed, run the installer and read the description displayed below the Easy Install option. If you would like further details, choose the Custom Install option

and use the "i" button to the right of each item in the list for detailed information about what it is and where it gets placed.

### Installing on a hard drive that is not the current start-up drive

The Digital Performer installer lets you install Digital Performer itself on any available hard drive. The installer places System Folder items into the current start-up System Folder. If you need to install Digital Performer's system items into a different System Folder, don't try dragging them from one System Folder to the other. There are too many items to keep track of and it is therefore easy to make a mistake. Instead, we recommend that you restart your computer from that System Folder and run the Digital Performer installer.

In some situations, it might be more convenient to run the Digital Performer installer from a hard drive, rather than from the Digital Performer installer CD-ROM disc. To do so, just copy the "Install Digital Performer" icon from the Digital Performer installer CD onto the hard drive and then run it from the drive.

### What happens if your start-up hard drive already has a copy of DAE on it

The Digital Performer installer searches for copies of DAE on your start-up drive. If it finds a copy, it will check the version number. If it detects an older version, it will notify you and let you decide if you want to replace it or halt the installation so you can back it up first. If you have other copies of DAE on your start-up drive, they will be deleted by the installer, so you may want to move them to another drive (other than your start-up drive) before doing an complete Digital Performer install.

The Digital Performer installer does not alter the TDM plug-ins folder, or any other folder inside the DAE folder.

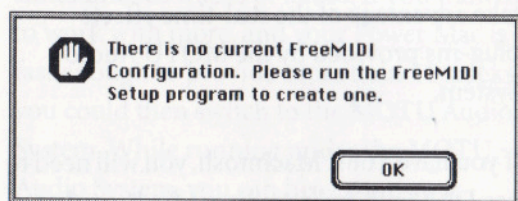
### Authorizing your hard disk

During installation (or maybe when you run Digital Performer for the first time), you may be asked to insert your Digital Performer authorization disk (the disk with the colored label) so that you can authorize your hard disk or re-verify an existing authorization from an earlier version. Follow the directions on the screen to authorize Digital Performer to run on your hard disk (or re-verify an existing authorization).

If you would like more information about authorizing, see “About authorizing” on page 25 of the Performer *Getting Started* manual.

### Creating a FreeMIDI configuration

If you see the message about FreeMIDI as shown below after running Digital Performer for the first time, don't worry. This message only means that you need to describe your MIDI setup to Digital Performer. (See the next section.)



### CREATING A FREEMIDI SETUP

Before you run Digital Performer for the first time, you'll need to run the *FreeMIDI Setup* program, which establishes successful communication between your Macintosh and the MIDI gear connected to it. FreeMIDI

Setup is placed by the Digital Performer installer in a Folder called *FreeMIDI Applications* on your startup hard drive.

Run FreeMIDI Setup and follow the directions it gives you. If you need further help with FreeMIDI Setup, see chapter 5, “Getting Started With FreeMIDI™” (page 27) in the Performer *Getting Started* guide.

### OPENING DIGITAL PERFORMER

When you are finished with FreeMIDI Setup, you are ready to launch Digital Performer for the first time. See the next section for important information about choosing an audio system.

### CHOOSING AN AUDIO SYSTEM

Digital Performer's audio recording and playback abilities are provided by one of two *audio systems* (also referred to as *audio engines*) that are included with Digital Performer:

- MOTU Audio System
- Digidesign Audio Engine (DAE)

Digital Performer allows you to choose one or the other; you cannot run both at the same time. The *Audio System* command in the Basics menu lets you choose the audio system you will be using, as shown below. Choices are: DAE, MOTU Audio System, or MIDI Only. On 68K Macs, the choices are DAE and MIDI Only.

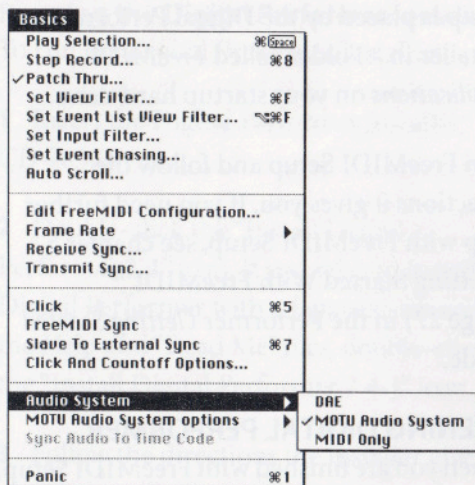


Figure 1: The Audio system menu item in the Basics menu lets you choose which audio system (or MIDI only) you wish to use. You can freely switch at any time.

### WHICH SYSTEM SHOULD YOU USE?

When you first run Digital Performer, it automatically makes one of the three choices for you. The choice it makes depends on your situation. For example, if you are running Digital Performer on a 68K Mac, the MOTU Audio System can't be used (because it doesn't run on 68K Macs). Therefore, Digital Performer will look for DAE in your System Folder and Digidesign hardware installed inside your computer. If it finds them, and everything is installed properly, Digital Performer will automatically choose DAE. If it doesn't, it will notify you with an alert message and let you choose *MIDI only*.

Here's another example: if you are running Digital Performer on a Power Macintosh, and you have no audio cards installed in the computer, Digital Performer will automatically choose the MOTU Audio System.

After Digital Performer launches for the first time, you can check the current audio system setting by looking in the Audio System submenu shown in Figure 1. At this point, you may want to change the audio system. The choice you make depends on your computer,

your audio recording hardware (if you have any), and what you want to do. The following sections can help you decide.

### MIDI Only

Choosing *MIDI Only* causes Digital Performer to disable most of its digital audio features. This setting is recommended when you are working on projects that do not involve any digital audio tracks.

### DAE

Choose DAE when you are using Digital Performer with Pro Tools™ hardware or any other Digidesign hard disk recording system that requires DAE.

As of this writing, Audiomedia II and III cards are an exception because they are also directly supported by the MOTU Audio System. In other words, if you have a Power Macintosh and an Audiomedia II or III card, you can choose either DAE or the MOTU Audio System. If your Power Macintosh has the equivalent of a 601/100 MHz processor or faster, you are better off using the MOTU Audio System because you will probably be able to play more audio tracks than are supplied by DAE. And you will also be able to take advantage of the real-time effects plug-ins provided by the MOTU Audio System.

If you have a 68K Macintosh, you will need to use DAE with your Audiomedia II card.

### MOTU Audio System

Choose the MOTU Audio System if you want to use Digital Performer's audio features and at least *one* of the following is true:

- You have a Power Macintosh with no audio cards installed in it.
- You have a Power Macintosh with a KORG 1212 I/O audio card installed in it.

- You have a Power Macintosh equipped with another type of audio card that is supported by the MOTU Audio System. (Contact Mark of the Unicorn regarding support for other audio cards.)

- You have a Digidesign Audiomedia II or III card running in a Power Macintosh that has at least a 601/100 MHz processor or faster.

If you choose the MOTU Audio System, be sure to read “The MOTU Audio System” (in this booklet, after the next section) for important information about getting the best performance from your system.

### Switching between audio systems

You can freely switch between DAE, the MOTU Audio System and MIDI Only at any time. Here is an example of a case in which you might need to do so: let's say that you have a Digidesign Pro Tools Project system with an 888 I/O unit. The 888 provides high-fidelity inputs and outputs. To use them, however, Pro Tools Project requires that you use DAE. So to record audio tracks, you would do so under DAE. But together, DAE and Pro Tools Project only give you 16 simultaneous tracks of audio. If you wanted to work with more, and your Power Mac is fast enough to provide more than 16 tracks, you could then switch to the MOTU Audio System. While running under the MOTU Audio System, you can hear your work through headphones connected to the Mac. You can then also work with the MOTU Audio System's real time effects plug-ins, virtual bussing environment, and automated mixing features. When you've got the mix sounding the way you like, you can use Digital Performer's Bounce feature to print an audio file mix of your project, and then switch back to DAE and Pro Tools Project for final output via the 888 using its high-fidelity analog I/O or digital I/O ports.

## THE MOTU AUDIO SYSTEM

The MOTU Audio System supports the built-in sound hardware of your Power Macintosh (via Sound Manager), as well as several audio cards. As of Digital Performer version 2.4, supported cards include:

- Digidesign Audiomedia II and III
- KORG 1212 I/O

Other audio cards may be supported in the near future. Contact Mark of the Unicorn for further details.

Regardless of whether you are using Sound Manager or one of the audio cards mentioned above, the number of audio tracks (voices) you can record and play simultaneously depends on your Macintosh system. A faster computer with more RAM and a fast hard drive gives you more voices. A slower computer with less RAM and a slow hard drive gives you fewer voices.

The following sections tell you how to set up the driver for your audio hardware.

## CONFIGURING THE HARDWARE DRIVER

A *hardware driver* is peripheral component of the MOTU Audio System that allows Digital Performer to communicate with a piece of hardware, such as the audio circuitry inside your Macintosh computer. The MOTU Audio System currently provides hardware drivers for the following digital audio recording systems:

- Apple Sound Manager (Mac OS built-in audio)
- KORG 1212 I/O card
- Digidesign Audiomedia II card
- Digidesign Audiomedia III card

In the future, the MOTU Audio System may support additional systems.

Before you can use any of these systems, you must configure the driver for it as described in the following sections. Choose *MOTU Audio System Options>Configure Hardware Driver* from the basics menu as shown below in Figure 2.

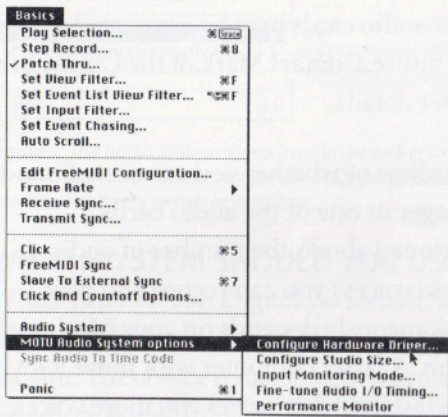


Figure 2: Configuring the hardware driver for Sound Manager—or the KORG 1212 I/O, Digidesign Audiomedia II or Audiomedia III cards.

If you are running Digital Performer without a KORG 1212 or Digidesign Audiomedia card, follow the directions in the following section regarding Sound Manager. Otherwise, consult the section that corresponds to your card.

### THE SOUND MANAGER DRIVER

To configure the Sound Manager driver, choose *MOTU Audio System Options>Configure Hardware Driver* from the Basics menu to access the settings shown below in Figure 3.

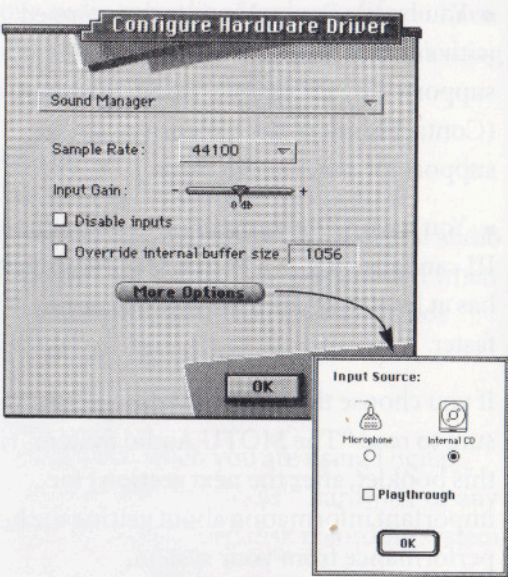


Figure 3: Configuring the Sound Manager driver.

Make sure that *Sound Manager* is chosen in the pop-up menu at the top of the dialog.

### Sample rate

Choose the desired sample rate for recording and playback. 44.1 KHz is the standard rate for audio compact discs. If you intend to play audio files that have already been recorded, make sure you match their sample rate. If you aren't sure what their sample rate is, import them into a Digital Performer file and look at them in the Soundbites window.

If you have a relatively slow Power Macintosh, such as a PowerBook 1400, you may need to choose 22.050 KHz, which requires much less work by the computer. Digital Performer does not support recording and playback of 8-bit audio, although it does allow you to bounce down audio to 8-bit sound files. See chapter 20, “Bounce To Disk” (page 165) for details.

### Input gain

This controls the level of the audio received from the Sound Manager input source (see below).

**Disable inputs**

Most of the time, you should leave this option unchecked. It is intended for rare situations in which Sound Manager may not operate quite properly on certain Macintosh models. If you have trouble playing back audio, you might try checking this option. With this option checked, you will not be able to record audio.

**Override internal buffer size**

This option should only be used in rare cases where you experience distortion when playing and recording audio via Sound Manager. In most cases, you should leave it unchecked.

**More options/Input Source**

The *More Options* button is very important because it lets you choose the input source for audio recording. The choices you see in the Input Source dialog shown in Figure 3 depend on your Macintosh. Typically, you'll see a microphone input and an option for the internal CD drive in your computer, which lets you record audio compact discs playing in the drive. You may see other options as well, although other options may not work with the MOTU Audio System.

On a G3 Power Macintosh, use the Monitors & Sound control panel to choose the input source. Consult any “Read Me” documents that accompany the Digital Performer 2.4 release for late-breaking news about this issue.

**The ‘Playthrough’ option**

The Playthrough option, when checked, causes the Macintosh to patch audio from its input directly to its output. This option has important consequences for recording in Digital Performer. Be sure to read “Audio patch thru and the MOTU Audio System” on page 72 for complete information.

**Sound control panel settings**

The input and output options in the Sound Control Panel are ignored by the MOTU Audio System when it is running with Sound Manager. However, you *can* use the Sound Control Panel volume settings to adjust Sound Manager output levels.

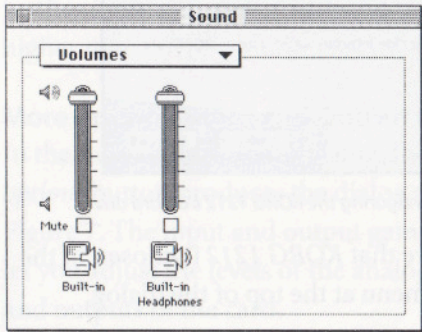


Figure 4: Use the Sound Control panel to set the maximum output volume from Digital Performer when it is running with Sound Manager. Input gain is controlled as shown in Figure 3 on page 8.

If you amplify the Mac’s audio output to monitor your music mix, remember that you are also amplifying your Mac’s beep sound. Therefore, you may want to turn it down in the Sound Control panel.

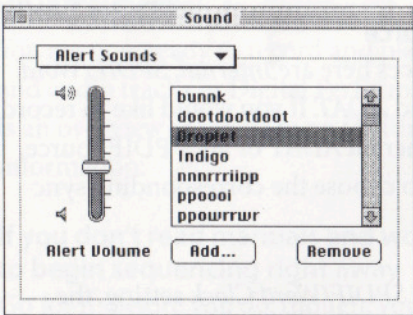


Figure 5: If you are amplifying the Mac’s audio output, you may want to turn down the beep volume in the Sound Control panel.

**THE KORG 1212 I/O DRIVER**

To configure the KORG 1212 I/O driver, choose *MOTU Audio System Options>Configure Hardware Driver* from the Basics menu to access the settings shown below in Figure 6.

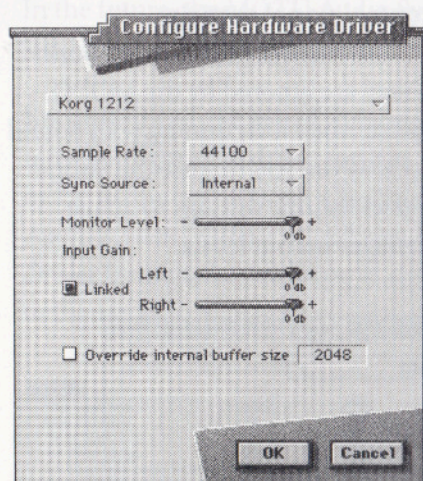


Figure 6: Configuring the KORG 1212 I/O card driver.

Make sure that *KORG 1212* is chosen in the pop-up menu at the top of the dialog.

### Sample rate

Choose the desired sample rate for recording and playback. 44.1 KHz is the standard rate for audio compact discs. If you intend to play audio files that have already been recorded, make sure you match their sample rate. If you aren't sure what their sample rate is, import them into a Digital Performer file and look at them in the Soundbites window.

### Sync source

The choices here are *Internal*, *SPDIF/Word Clock*, and *ADAT*. If you would like to record from either an ADAT or an S/PDIF source, be sure to choose the corresponding sync source.

With the *SPDIF/Word Clock* setting, the KORG card searches for word clock first, and if it doesn't detect any, it then seeks S/PDIF input.

With the *ADAT* setting, the KORG card searches for ADAT sync first, and if it doesn't detect any, it then seeks an optical input connection and synchronizes to the optical input instead. Digital Performer 2.4 supports sample-accurate sync via the ADAT setting.

Be sure to read "Sample-accurate sync" on page 18 of this booklet to learn how to synchronize Digital Performer, your KORG 1212 card and your ADAT.

If you intend to record ADAT and S/PDIF input at the same time, you will need a synchronizer like MOTU's Digital Timepiece to serve as a word clock master over both the ADAT and the S/PDIF device. Otherwise, you'll experience alignment problems between the ADAT material and the S/PDIF material.

### Monitor level

This slider lets you adjust the volume of the KORG card's hardware patch thru. For details about hardware patch thru, see "Audio patch thru and the MOTU Audio System" on page 72.

### Input gain

This controls the level of the audio received from the analog inputs on the 1212 I/O card.

### Override internal buffer size

This option should only be used if you experience distortion when playing and recording audio via the 1212 I/O card. In most cases, you should leave it unchecked. If you do experience distortion, try checking this option. If you still hear distortion, try increasing it in increments of 1024, but don't go higher than 4096.

## THE AUDIOMEDIA II / III DRIVER

To configure the driver for the Audiomedia II or III card, choose *MOTU Audio System Options>Configure Hardware Driver* from the Basics menu to view the settings shown below in Figure 7.

Make sure that *Audiomedia II & III* is chosen in the pop-up menu at the top of the dialog.

## Sample rate

Choose the desired sample rate for recording and playback. 44.1 KHz is the standard rate for audio compact discs. If you intend to play audio files that have already been recorded, make sure you match their sample rate. If you aren't sure what their sample rate is, import them into a Digital Performer file and look at them in the Soundbites window.

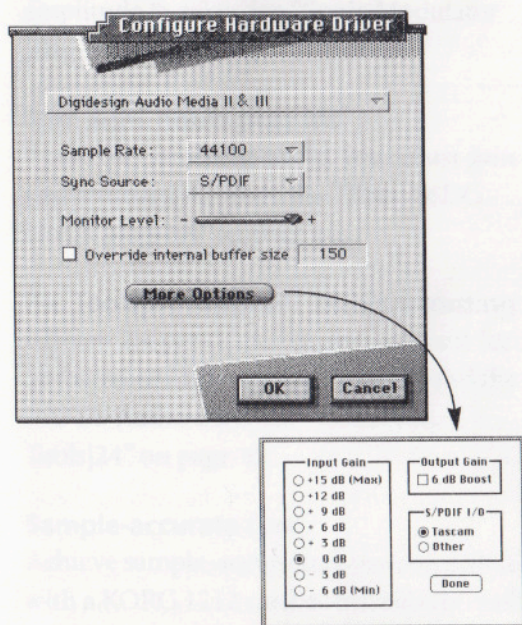


Figure 7: Configuring the Audiomeia card driver.

## Sync source

The choices here are *Internal* and *S/PDIF*. Choose *Internal* when you would like to use the analog inputs and outputs. Only choose the *S/PDIF* setting if you actually have an *S/PDIF* device physically connected to the card. Otherwise, you'll hear strange noises when you try to play back audio.

## Monitor level

This slider lets you adjust the volume of the Audiomeia card's hardware patch thru. For details about hardware patch thru, see "Audio patch thru and the MOTU Audio System" on page 72.

## Override internal buffer size

This option should only be used if you experience distortion when playing and recording audio via the Audiomeia III card. In most cases, you should leave it unchecked. If you do experience distortion, try checking this option. If you still hear distortion, try increasing it to 1024. If necessary, add further increments of 1024, but don't go higher than 4096.

## More options/Input and Output Gain

In the Audiomeia driver dialog, the *More options* button produces the dialog shown in Figure 7. The input and output gain options let you adjust the levels of the analog inputs and outputs of the card.

## ADJUSTING SYSTEM PERFORMANCE

You can further refine the audio performance of your system with the items in the MOTU Audio System sub-menu (as shown in Figure 2 on page 8 of this booklet). For further details, refer to "Adjusting system performance" on page 42 of the *Guide to Digital Audio*.

## WHAT NEXT?

You are now ready to record and play MIDI and audio tracks in Digital Performer. Here is an overview of where to go for further information:

### If you don't read manuals and would like to begin sequencing right away

Go for it. Before you do, though, you might want to check out chapter 7, "Performer Overview: A Picture-book Tour" (page 45) in the Performer *Getting Started* manual and chapter 3, "A Guided Tour of Digital Performer" (page 11) in the *Digital Performer Guide to Digital Audio*.

## **For basic feature overviews and tutorials**

Turn to the Performer *Getting Started* manual. It provides an overview of how to operate Digital Performer, along with two extensive tutorials. One tutorial takes you step-by-step through the process of recording your first MIDI track. The second tutorial shows you step-by-step how to build an entire song, while introducing you to a number of basic tasks such as quantizing and step recording.

The Performer *Getting Started* manual is ideal for anyone who is new to Performer and would like a quick look at “the lay of the land”.

## **To learn about audio features**

Turn to the Digital Performer *Guide to Digital Audio* manual. It contains all information having to do with Digital Performer’s audio capabilities, including an overview, tutorial, and troubleshooting chapter written exclusively for audio features. In addition to being an audio reference, this book is ideal for anyone who is already familiar with Performer and would like information about Digital Performer’s audio features.

## **To learn what’s new in Version 2.4**

Refer to the next section and the remaining pages of this booklet.

## WHAT'S NEW IN VERSION 2.4

Here is an overview of the new features added in Digital Performer 2.4. These features are explained in more detail in the remaining pages of this booklet. They are not documented in the other manuals.

### Sonic Modulator plug-in

Create rich, unique effects with four integrated modulators: pitch, phase, amplitude & delay. See “Sonic Modulator plug-in” on page 14.

### Trim & DC notch plug-ins

These two new plug-ins let you adjust gain and remove DC offset. See “Trim & DC Notch plug-ins” on page 16.

### Pro Tools|24 support / 24-bit recording

Version 2.4 provides complete support for 24-bit recording with Pro Tools|24 and the MOTU Audio 2408. See “Using Pro Tools|24” on page 16.

### Sample-accurate sync

Achieve sample-accurate sync to an ADAT with a KORG 1212 card or the MOTU Audio 2408 hard disk recording system. (Digital Performer will also allow sample-accurate sync to a DA88 with the 2408 system and a Digital Timepiece.) See “Sample-accurate sync” on page 18.

### More efficient MAS engine

Digital Performer 2.4 provides improved responsiveness and more available CPU bandwidth for real-time effects because it now limits its processing only to hardware inputs and outputs that are being used in the currently open file.

### Support for the Yamaha A3000

Drag & drop audio samples between your Yamaha A3000 sampler, Digital Performer, and your Macintosh desktop. See “Yamaha A3000 sampler support” on page 20.

### Drag & Drop effects plug-ins and effect grouping

Quickly apply, move and duplicate effects by dropping them into “insert sockets”. Store, recall, move and duplicate effects as a group. See “Drag & Drop plug-ins” on page 21. Drag and drop effects into Clipping windows for convenient storage and recall.

### Audio volume is now displayed in dB

Audio volume can now be displayed in dB throughout the program. Version 2.4 also provides an additional +6dB of gain above zero dB. See “Audio Volume Display in dB” on page 22.

### Enhanced Premiere plug-in support

Audition Premiere plug-ins through your audio card. Adjust the real-time preview duration up to 60 seconds. See “Premiere plug-in preferences” on page 23.

### AIFF and WAV file import/export

Exchange files with other programs on Mac or PC. See “AIFF/WAV File Import/export” on page 24.

### Drag & Drop MIDI file importing

Import MIDI files — dozens or hundreds at a time — with one drag. See “Drag & Drop plug-ins” on page 21.

### Audio Graphic Editor enhancements

Many track management features in the Tracks window (like selecting, renaming, reordering, deleting, duplicating, etc.) are now available directly in the Audio Graphic Editor. See “Audio Graphic Editor Enhancements” on page 22.

### Other enhancements

Version 2.4 includes additional enhancements throughout the program.

## SONIC MODULATOR PLUG-IN

Digital Performer 2.4 introduces a new real-time plug-in for the MOTU Audio System, called *Sonic Modulator*, which provides a wide range of modulation effects, numerous presets, and graphic control over many parameters. It features four phase-syncable LFOs (low frequency oscillators), an amplitude envelope generator, and modulators for pitch, filter (four different kinds), amplitude, and delay.

To use Sonic Modulator, run Digital Performer under the MOTU Audio System and then choose 'Sonic Modulator' from a mono insert in the Mixing Board window.

The following sections briefly explain the Sonic Modulator controls. For a more in-depth explanation of how to use this plug-in, refer to the 'Sonic Modulator Read Me' included in the Digital Performer 2.4 Folder.

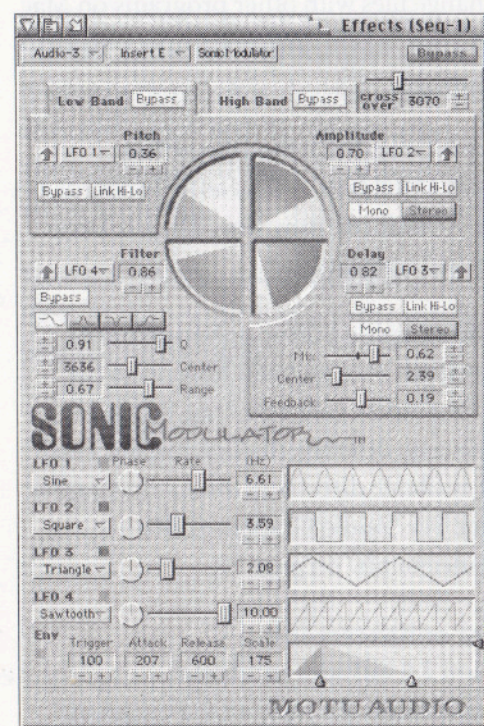


Figure 8: To access the real-time Sonic Modulator plug-in, run Digital Performer under the MOTU Audio System and choose 'Sonic Modulator' from any mono audio insert in the Mixing Board window.

## Two independent frequency bands

The Sonic Modulator splits the input signal into two bands, a low band and a high band, so that you can apply separate settings to each band. The *Low Band* and *High Band* tabs toggle the controls in the window between the two bands. You can adjust the crossover between them with the *Crossover* control to the right of the tabs.

## A wide range of modulation effects

The Sonic Modulator is capable of basic effects like vibrato, flanging, and tremolo. It is also capable of special effects, such as sample/hold and triggered filters and rotary speaker effects.

## Use the presets as a starting point

You might find it useful to listen to the presets and choose an existing preset as a starting point for your own settings. The presets are conveniently organized into categories like Amplitude Effects, Pitch Effects, Delay Effects, and Filter Effects.

## Low band/ High band select and bypass

The *Low Band* and *High Band* selection tabs determine which frequency band will be affected by the pitch, delay and amplitude controls within the green or purple area of the plug-in window.

Each band can be *bypassed* by activating the bypass button in the Low or High band tab.

*Filter modulation* is not band-specific, so it is not affected by (or included in) the Low and High band tabs.

## Crossover Frequency

The *Crossover Frequency* defines the split point between low and high band modulators.

## Modulator wheel (Depth) control

The Modulator Wheel graphic in the middle of the window displays the amount — or depth — of the modulator being applied. Click anywhere in the four sectors of the wheel to adjust the amount, or type it in the *Depth* text box provided.

## Modulator Bypass

The *bypass* switch bypasses the individual modulator.

## Link hi-Lo

The *Link Hi-Lo* button applies the current settings of the modulator to both the High and Low frequency bands. If you make a change in one band with this button activated, the change is mirrored in the other band. (Note that the filter does not have this button because it is not band-specific.)

## LFO Selection menu

LFO selection menu lets you choose one of the LFOs shown in the lower portion of the window. The LFO you choose is applied to the modulator.

## LFO Direction

The *direction* (arrow) button sets the initial direction of the modulation wave.

## Pitch Modulation

The *Pitch depth* control describes how far the pitch of the signal is modulated.

## Amplitude Modulation

The *Amplitude depth* control describes how far the amplitude of the signal is modulated.

The *mono/stereo* buttons determine whether the amplitude modulation is panning or tremolo.

## Delay Modulation

The *Delay depth* control describes how far the delay of the signal is modulated.

The *Stereo* button puts left and right signals 180 degrees out of phase for a stereo effect. *Mix* blends the dry signal with the delayed signal. Center is 0%. Moving the control left or right introduces the delayed signal in phase or 180 degrees out of phase. *Center* selects the initial delay of the modulated signal. *Feedback* regenerates the modulated signal for a more complex effect. Center position is 0 feedback; moving the control to the left or right introduces in-phase or out-of-phase regeneration.

## Filter Modulation

There are four types of filter to work with: Low Pass, Band Pass, Notch (inverted Band Pass) and High Pass. The *Q control* increases the resonance of the filter. The *Center* control determines the center frequency of the filter. The *range* control sets how far the filter travels.

## LFOs

There are four independent LFOs. The selectable waveforms are as follows: Sine, Square, Triangle, Sawtooth and Random.

The *phase* buttons allow LFOs to have specific phase offsets from each other. Click them repeatedly to change the phase in 45-degree increments. The phase offset would only be noticeable if two or more LFOs were set at the same speed.

*Rate* adjusts the speed at which the LFO oscillates.

## Envelope

The amplitude of the incoming signal is used to generate an *envelope*. The envelope can be used as a modulation source. The attack and release times can be varied, as well as the scaling of the envelope. The retriggering sensitivity can be adjusted.

## TRIM & DC NOTCH PLUG-INS

Digital Performer 2.4 introduces two additional new plug-ins: *Trim* and *DC Notch*.

Trim provides simple gain and attenuation, but it offers a number of useful additional features, including long-throw metering with an adjustable range, an invert option, and left/right swapping in the stereo version. Note: in the stereo version, the invert option is applied to the input before the channels are swapped.

The *DC Notch* plug-in helps eliminate DC offset.

To use the Trim or DC Notch plug-ins, run Digital Performer under the MOTU Audio System and then choose “Trim” or “DC Notch” from the insert menu for any audio track in the Mixing Board window.

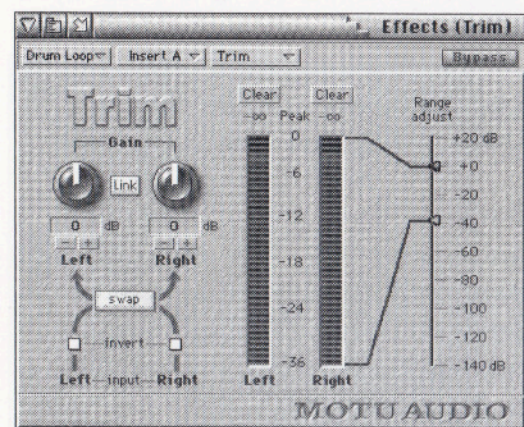


Figure 9: The Trim plug-in. The stereo version is shown here.

## USING PRO TOOLS|24

Digital Performer 2.4 fully supports Digidesign's new Pro Tools|24 system. Be sure you have DAE 3.2.3 (supplied by the Digital Performer 2.4 installer) or later.

### 24-bit recording

24-bit digital audio recording uses a 24-bit word to describe each sample recorded. 16-bit recording provides 2 to the 16th — or

65,536 — values to record the level of audio for any given sample. 24-bit recording supplies 8 more bits (2 to the 24th), providing over 16 million separate values (16,777,216 to be exact) with which to record the level of any given sample. As you can see, 24-bit recording provides 256 times the resolution — or “fineness” — of 16-bit recording.

24-bit recording has several advantages over 16-bit recording. One is signal-to-noise ratio. In digital recording, each bit provides approximately 6 dB of signal-to-noise ratio (SNR). So 16-bit recording provides a theoretical 96 dB of SNR, 20-bits provide 120 dB, and 24-bits provide 144 dB. With medium to loud audio material, such as a pop music recording, this extra 48 dB of SNR is not a significant advantage. On quiet recordings, however, with long instrument decays or reverb tails, the extra SNR can become much more of an important advantage over 16-bit recording.

The much more significant difference between 16 and 24 bit recording is the resolution, and this factor impacts sound at all levels, soft and loud, even to the untrained ear. As mentioned earlier, 24-bit recording has 256 times the resolution of 16-bit recording. You can readily hear the difference when A/B-ing material recording at the two different sample formats. 24-bit audio has a noticeably enhanced detail, tightness in the bottom end, and overall depth.

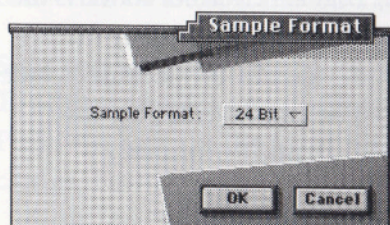
### Setting up your Pro Tools 24 hardware

You don't need to do anything special to your Pro Tools|24 hardware for Digital Performer. Just install it as instructed by the Pro Tools|24 documentation.

## Choosing 16 or 24-bit operation

Pro Tools|24 systems can run in 16-bits or 24-bits, but not both at the same time. Digital Performer allows you to choose the sample format you want for each project. The sample format is saved with the Digital Performer file, and it can be different from file to file. Please note, however, that Digital Performer does not allow you to switch to 24 bits when you are operating Digital Performer with DAE-based systems that do not support 24-bit audio (such as Pro Tools III).

To choose the desired sample format for the currently open Digital Performer project, choose *MOTU Audio System options>Configure Sample Format* or *DAE options>Configure Sample Format* from the Basics menu, choose the desired sample format from the menu and click OK.



You can change the sample format of a Digital Performer project at any time. (See the next section for what happens to existing sound files in the project that don't match the current sample format setting.)

## Using 16-bit audio files in a 24-bit project (and vice versa)

If you have a 16-bit audio file in a 24-bit project, Digital Performer will display soundbites from the 16-bit file with a red 'X' on their move handle in the Soundbites window to indicate that they cannot be played. The same is true for 24-bit audio files in a 16-bit project.

## Converting a 24-bit file to 16 bits

Often, you'll need to deliver your 24-bit projects as a 16-bit stereo mix (for CD burning, DAT transfer, etc.) And there will undoubtedly be other occasions where you'll need to convert 24-bit audio to 16-bit audio.

Conversely, there will also be occasions when you need to convert 16-bit material to 24 bits. For example, you may have a new 24-bit project you've created in Version 2.4, and you might need to import 16-bit material from a sound library or a Digital Performer project created in earlier versions.

## The Convert Sample Format command

The *Convert Sample Format* command in the Soundbites window mini-menu, as shown below in Figure 10, allows you to change the sample format of an audio file or soundbite. You can change from 24 bits to 16 bits, or vice versa. Like Digital Performer's other file-based "constructive" DSP processes, sample format conversion can occur in the background.

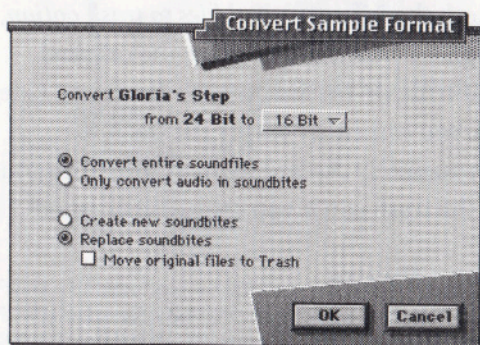


Figure 10: To convert 24-bit audio to 16-bit audio (or vice versa), select the soundbite(s) you wish to convert in the Soundbites window and then choose *Convert Sample Format* from the Soundbites window mini-menu.

## Dithering

Digital Performer incorporates dithering when converting 24-bit audio to 16 bits — rather than truncating the extra 8 bits — to ensure the smoothest possible conversion.

## Converting entire soundfiles

When you choose a soundbite for sample format conversion, the Sample Format Conversion dialog box also gives you a choice between converting only the soundbite itself (the portion of the soundfile that falls within the soundbite) or the entire parent soundfile. If you will need to use other parts of a soundfile (edge-editing the converted soundbites, for example), you should choose to convert the whole file.

## Soundbite replacement options

In Digital Performer, sample format conversion is a “constructive” editing process, which means that it always generates new audio files and preserves the original ones. The Sample Format Convert dialog box provides several options for what to do with the old audio. The *Create new soundbites* option leaves old soundbites intact. The *Replace soundbites* option makes Digital Performer replace the original soundbites with the new ones, both in the Soundbites window and in all sequences in which the soundbites appear. If you also check the *Move original files to trash option*, Digital Performer will place the original audio files in the Macintosh’s Trash can. Later on, you can either empty the trash to permanently discard them or drag them out of the trash can if you change your mind.

## 24-bit file size

24-bit audio files are 1.5 times the size of 16-bit files. One mono minute of 16-bit audio takes up around 5 MB of disk space. One mono minute of 24-bit audio takes up around 7.5 MB. One stereo minute of 24-bit audio takes up approximately 15 MB. This means that to play 24-bit audio, your hard drive has to work 50% harder than the equivalent amount of 16-bit audio. Plan your sessions accordingly.

## Recording, editing, mixing and processing 24-bit audio

Once you’ve chosen 24-bit operation (as discussed earlier in “Choosing 16 or 24-bit operation”), just about everything in Digital Performer operates as described in your three Digital Performer manuals. Recording, editing, mixing, and effects processing all operate the same way they do in 16-bit operation (except for Adobe Premiere plug-in processing. Read the next section for details.) The only differences between 16-bit and 24-bit operation are discussed below.

## Premiere plug-ins and 24-bit audio

The Premiere plug-in specification developed by Adobe Systems only handles 16-bit audio. Therefore, when you use Digital Performer to apply a Premiere plug-in to a 24-bit audio file, Digital Performer converts the audio to 16 bits before passing it through the plug-in. After processing, Digital Performer converts the audio back into to 24 bits, making the resulting audio file a 24-bit file. This includes the Invert Phase and Reverse plug-ins included with Digital Performer.

## SAMPLE-ACCURATE SYNC

Digital Performer 2.4 provides sample-accurate synchronization to an ADAT via a KORG 1212 card. This allows you to transfer digital audio — entirely in the digital domain — between Digital Performer and an ADAT via ADAT optical cables with single-sample accuracy. Digital transfers between the KORG 1212 card and Digital Performer have been possible with previous versions, but Digital Performer 2.4 now adds sample-accurate placement of the audio. This means, for example, that if you record some audio from the ADAT into Digital Performer, and then send it back to the ADAT, it will be placed at exactly the same location — to the very sample — that it

originated from (assuming you don't move it while it's in Digital Performer). Here's another example: if you transfer 8 tracks from the ADAT into Digital Performer, sample accurate sync ensures that they will maintain their exact phase relationship to one another, even if you record them into Digital Performer one at a time.

**Very important: ATC adaptor required**

To perform sample-accurate sync, be sure to connect your KORG 1212 card's ADAT Timecode Conditioner (ATC) adaptor to its 9-pin ADAT sync connector as shown below in Figure 11. The ATC adaptor ships with your KORG 1212 card.

**ADAT optical connections**

Sample-accurate digital audio transfers can only be made via the 8-channel optical connection between the 1212 card and the ADAT. Be sure you have both optical cables connected IN to OUT and OUT to IN.

**Sync connections**

To achieve sample accurate sync, Digital Performer slaves to the ADAT via the 1212 card as shown below:

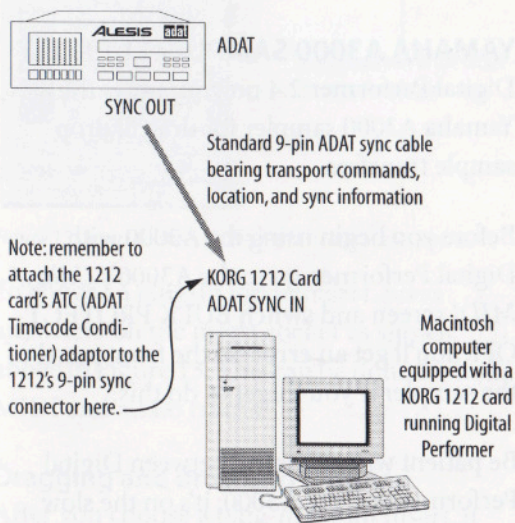


Figure 11: Sample accurate sync is achieved by slaving Digital Performer to the ADAT via the 1212 card and the ADAT SYNC cable connection from the ADAT to the card.

**Transport control**

As you can see from Figure 11 above, the ADAT is the master and Digital Performer is the slave. As a result, for transport control, you have two choices:

- Shuttle everything from the ADAT front panel transports
- Use MIDI Machine Control and a MIDI Timepiece AV (or other MMC-capable ADAT synchronizer) to control everything from Digital Performer's transport controls as shown below:

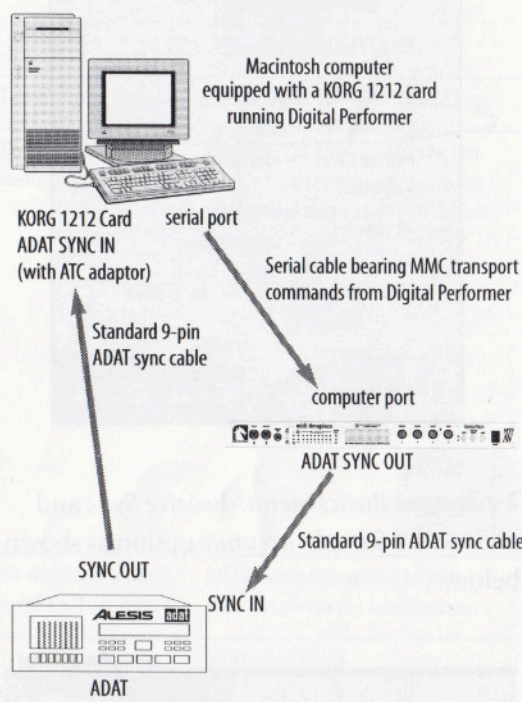


Figure 12: If you have a MIDI Timepiece AV (or any other ADAT synchronizer that responds to MMC commands), you can run your sample-accurate 1212/ADAT rig from Digital Performer's transport controls by making the connections shown here.

**MIDI Timepiece AV or Digital Timepiece sync settings**

If you are using a MIDI Timepiece AV or Digital Timepiece as your ADAT sync master source, use the following sync settings:

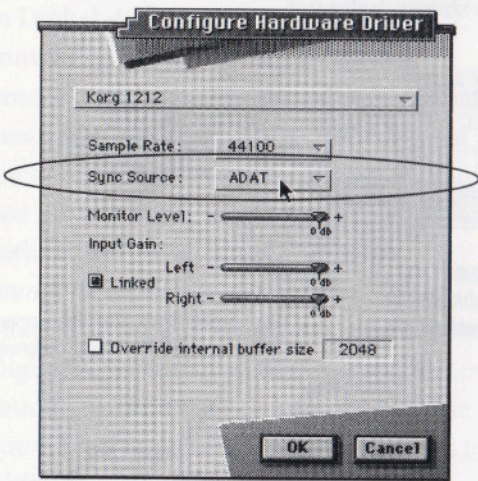
- Master Sync mode: Internal

- 44.1 or 48 KHz (check to make sure it is set to the sample rate you want to use in the ADAT and Digital Performer)

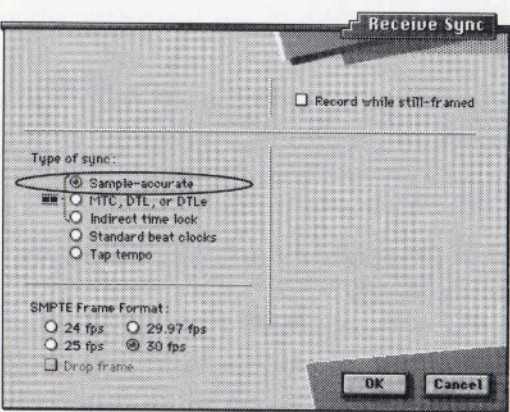
### Digital Performer settings

For sample-accurate KORG 1212 sync, check the following settings in Digital Performer:

- 1 Choose *Basics menu>MOTU Audio System options>Configure Hardware Driver* and choose *ADAT* from the *Sync Source* menu as shown below.



- 2 Choose *Basics menu>Receive Sync* and choose the *Sample-accurate* option as shown below.



- 3 If you intend to use the transport controls on the front panel of your ADAT (or an LRC attached to the ADAT), check *Slave to External Sync* in the Digital Performer's Basics menu.

- 4 If you have a MIDI Timepiece AV, Digital Timepiece, or other MMC-capable ADAT synchronizer and plan to control everything from Digital Performer's transport controls via MMC, open the MMC window and enable MMC. This puts Digital Performer in *Slave to External Sync* mode. Make sure your MIDI Timepiece AV (or other MMC synchronizer) is on-line.

### Optical input/output settings

When you want to transfer audio from the ADAT to Digital Performer, be sure to choose an ADAT optical input for the track you will be recording into (labeled ADAT 1-8 in the track's input pop-up menu).

When you want to transfer audio from Digital Performer to the ADAT, make sure you've chosen a pair of ADAT optical channels for the output assignment of the track you want to transfer. Also make sure the ADAT itself is set to DIGITAL input.

### YAMAHA A3000 SAMPLER SUPPORT

Digital Performer 2.4 now supports the Yamaha A3000 sampler for drag & drop sample transfers.

Before you begin using the A3000 with Digital Performer, go to the A3000's *Utility/ MIDI* screen and switch BULK PROTECT OFF. You'll get an error on the front panel of the sampler if you forget to do this.

Be patient with transfers between Digital Performer and the A3000: it's on the slow side. Like the E-mu ESI-32, the A3000 does not support deleting or renaming samples.

Refer to chapter 21, “The Samplers Window” (page 169) in the *Guide to Digital Audio* for details about using the Sample system.

### DRAG & DROP PLUG-INS

Digital Performer 2.4 has a number of enhancements to the way plug-ins are used with the 5 inserts for each track in the Mixing Board window.

#### Insert sockets

In earlier versions of Digital Performer, the five inserts for each track in the Mixing Board window consisted of pop-up menus from which you would choose the desired plug-in. In Digital Performer 2.4, each track now has five “insert sockets” as shown in Figure 13:

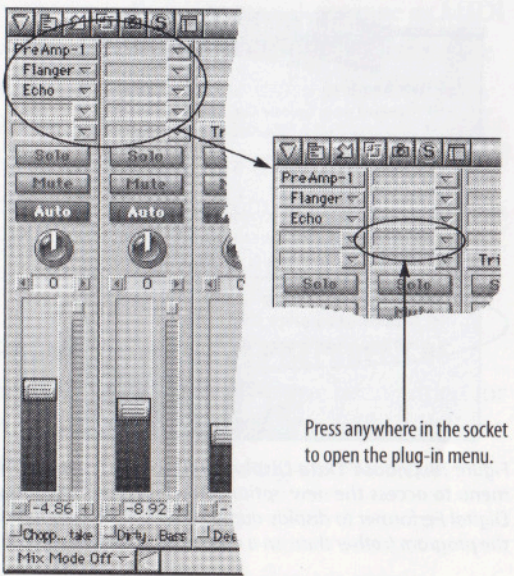


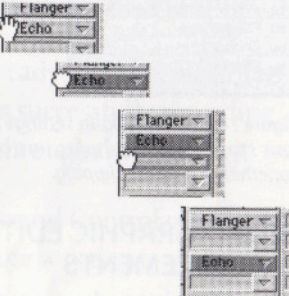
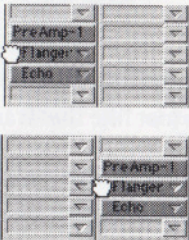
Figure 13: Insert sockets for both MIDI and audio tracks.

To choose a plug-in for an insert, press anywhere on the insert socket as shown above in Figure 13. This can be done for both MIDI and audio tracks.

#### Dragging and dropping plug-ins

After you choose a plug-in for an insert, it fills the socket as shown above in Figure 13 by the PreAmp-1, Flanger and Echo plug-ins. You can now treat the plug-in as an

object that can be selected, deleted, dragged to a different insert, duplicated, or drag & dropped into a Clipping window. Here is a summary of drag and drop techniques you can use on plug-ins in the Mixing Board:

| To do this                                          | Do this                                                                                                                                                                                       |
|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| To change to a different plug-in on the same insert | Press on the plug-in that's there already to open the plug-in menu.                                                                                                                           |
| To open the plug-in's window                        | Double-click it.                                                                                                                                                                              |
| To select a plug-in                                 | Click it.<br>                                                                                                |
| To remove a plug-in                                 | Select it and press the delete key.                                                                                                                                                           |
| To move a plug-in to another insert                 | Position the cursor over the left edge of the plug-in until you see the hand cursor, and then drag it.<br> |
| To duplicate a plug-in on another insert            | Hold down the option key and then drag with the hand cursor.                                                                                                                                  |
| To select several plug-ins                          | Shift-click them.                                                                                                                                                                             |
| To move several plug-ins to other inserts           | Select them and drag them with the hand cursor.<br>                                                       |
| To duplicate several plug-ins on other inserts      | Hold down the option key and then drag them with the hand cursor.                                                                                                                             |

## Plug-ins as clippings

Using the hand-grabbing technique described in the previous section, you can drag and drop plug-ins in and out of Clipping windows. This is a handy way to store your favorite plug-in settings. If you want to keep the settings you've made in a plug-in for general use, just drag it into a Clipping window. The same applies for groups of plug-ins. If you drag several plug-ins together into a Clipping window, they will be stored as a single clipping. When you drag them back into the insert section of the Mixing Board window, they will expand back into the original number of plug-ins (taking up one insert for each plug-in, as usual).

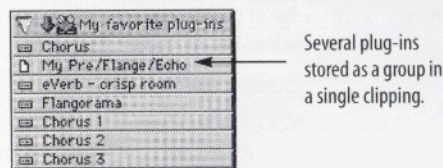


Figure 14: Storing plug-in settings in a Clipping window. You can store individual plug-ins or store several plug-ins together as a single clipping.

## AUDIO GRAPHIC EDITOR ENHANCEMENTS

The following enhancements have been made to the Audio Graphic Editor window:

- Track names now highlight if there is a selection in the track.
- You can now click or shift-click the track name to select the track, just like the Tracks window.
- You can option-click a track name to rename it, just like the Tracks window.
- You can rearrange audio tracks in the Audio Graphic Editor by dragging the info pane to the left of the track vertically.

- The following commands have been added to the Audio Graphic Editor window mini-menu: Add Similar Tracks, Duplicate Tracks, and Delete Tracks. They work the same way as the commands by the same name in the Tracks window mini-menu.

## AUDIO VOLUME DISPLAY IN dB

In previous versions, Digital Performer displayed audio volume throughout the program — Mixing Board, event lists, Audio Graphic Editor, etc. — with the same value range as MIDI volume events: 0-127, where 127 was unity gain. Version 2.4 provides a new preference for displaying audio volume in decibels. To access this preference, choose *Data Display Preferences* from the File menu as shown below in Figure 15.

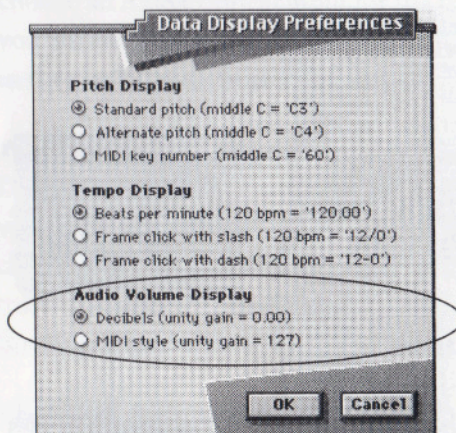


Figure 15: Choose 'Data Display Preferences' from the File menu to access the new option shown here, which allows Digital Performer to display audio volume in dB throughout the program (rather than on a numerical scale from 0-180).

The audio volume display preference affects every place in the program where audio volume data values are displayed. Here are a few examples:

- Volume events in the audio event list
- Mixing Board faders
- The Search command

- Cursor tracking in the Audio Graphic Editor (when volume is being displayed in a track)

### +6 dB BOOST ADDED TO VOLUME RANGE

Version 2.4 introduces another audio volume enhancement: Digital Performer now provides an additional +6 dB of boost above zero dB. For example, if you move a fader in the Mixing Board as high as it can go, it will be set at 6 dB above unity gain. This increase in range is provided throughout the program, wherever audio volume data values are displayed.

### 0-127 range is now 0-180

In previous versions, Digital Performer displayed audio volume throughout the program with the same value range as MIDI volume events: 0-127. To accommodate the additional 6 dB above unity gain, Digital Performer 2.4 provides an increased audio range of 0-180, where unity gain is 127 (as before). The range from 0-127 is the same as before; it has just been extended to 180 to provide the extra boost.

### PREMIERE PLUG-IN PREFERENCES

Several new preferences have been added for Adobe Premiere plug-ins. To access them, choose *Audio menu>Plug-ins>Premiere Plug-in Preferences*.

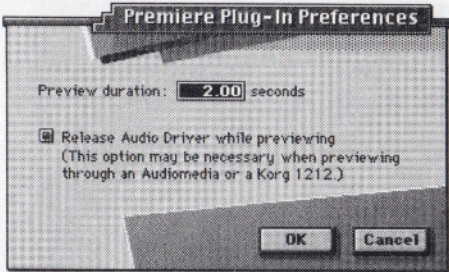


Figure 16: To open the Premiere plug-in preferences shown here, choose *Audio menu>Plug-ins>Premiere Plug-in Preferences*.

### Preview duration

This preference lets you choose how much of the current audio selection will be previewed in real time while you have the Premiere plug-in window open (and before you apply the effect permanently). You can enter any amount of time between 0.1 and 60 seconds (RAM permitting). The maximum preview time is governed by the amount of available RAM in Digital Performer and the System.

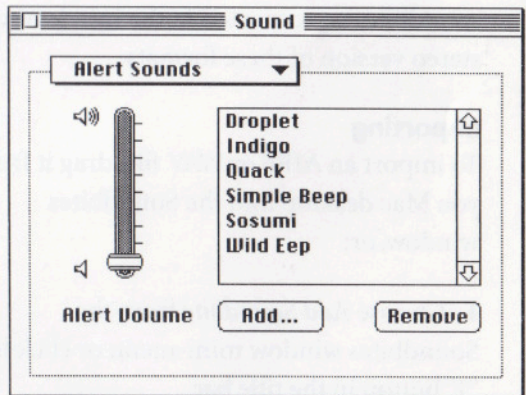
### Disable audio driver during preview

This option, when checked, allows you to preview Premiere plug-ins through your 1212 or Audiomedia III card (running under MAS or DAE) as explained in the next section. It is not needed for the MOTU 2408.

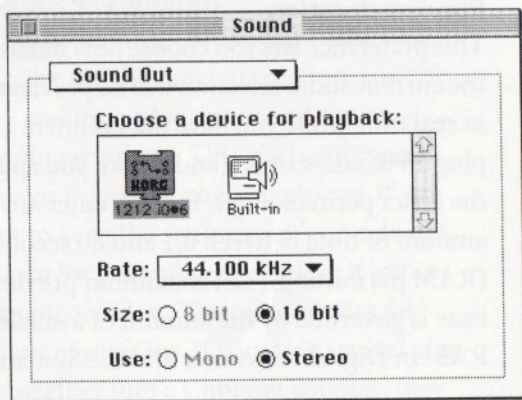
### Setting up hardware preview

To successfully preview a Premiere plug-in through a 1212 or Audiomedia III card:

- 1 If you haven't already done so, make sure Digital Performer is successfully recording and playing audio through the card.
- 2 In the Mac OS Sound Control panel, turn the alert sound all the way down as shown below.



- 3 Still in the Sound Control panel, choose your Audiomedia III or KORG 1212 card as your Output device.



- 4 Back in Digital Performer, check the 'Release Audio Driver while previewing' option as shown in Figure 16.
  - 5 Select some audio and choose the desired Premiere plug-in.
  - 6 Once the Premiere plug-in window appears, preview the audio as directed by the plug-in.
- With either an Audiomedia card or a KORG 1212 card, the previewed audio will play from the card's analog output pair.

## AIFF/WAV FILE IMPORT/EXPORT

Digital Performer 2.4 can import and export audio files as AIFF and WAV files. Stereo soundbites are exported in the interleaved stereo version of these formats.

### Importing

To import an AIFF or WAV file, drag it from you Mac desktop into the Soundbites window, or:

- 1 Choose *Add Soundbite* from the Soundbites window mini-menu or click the "I" button in the title bar.
- 2 Locate the file you wish to import and click Open.

It can be a mono or interleaved stereo file in AIFF, WAV or Sound Designer II format. Upon importing, AIFF files remain as AIFF files. WAV files, on the other hand, are converted into the Sound Designer II format for use in Digital Performer. In all cases, stereo files are split into separate .L and .R mono Sound Designer II files. You can interleave them again upon exporting.

### Exporting

To export a soundbite as a mono or stereo AIFF or WAV file:

- 1 Select a mono or stereo soundbite in the Soundbites window (opened from the Audio menu).
- 2 Choose *Export* from the Soundbites window mini-menu, and choose the desired format from the sub-menu.
- 3 In the standard file save dialog that appears, type in the desired name for the file you are exporting, navigate to the folder in which you'd like to save the file and click Save. Stereo soundbites are exported as interleaved stereo AIFF, WAV or SDII files.

## OTHER VERSION 2.4 ENHANCEMENTS

Here are several additional enhancements in Digital Performer 2.4:

- Support for AKAI Sampler OS v 2.0.
- Crossfades now play inside loops.
- The Thin Continuous Data command has been improved. It now produces more predictable, useful results.
- When inserting a snapshot of audio pan or volume, Digital Performer now properly inserts an extra event to create the desired instantaneous, stair-step change.
- The PreAmp-1 plug-in has been updated to avoid problems when bouncing to disk.